

IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1-13. (Canceled)

14. (Currently Amended) A method for determining a manner of classifying data samples in one of a number of predetermined classes comprising first and second classes, said method comprising:

associating a plurality of data classifiers in a decision fusion application comprising said data ~~sample~~ samples, wherein said data classifiers indicate a manner of classifying said data sample in said one of a number of first classes;

computing sample confidence values for each data sample;

determining an overall confidence value for said first classes using said sample confidence values;

assigning a weight value for each of said plurality of data classifiers as a function of said overall confidence value and said sample confidence values;

classifying each said data sample in a second class by calculating a combined log-likelihood value for each second class, wherein said log-likelihood comprises a summation of likelihoods of said plurality of data classifiers weighted by said weight value; and

classifying a calculated second class as a correct class for a particular data sample by selecting a particular second class with a highest calculated combined log-likelihood value[[]].

and

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~~improving a classification accuracy of said decision fusion application based on said correct class.~~

15. (Currently Amended) The method of claim 14, ~~wherein said weight value for said each of said plurality of data classifiers comprises a data sample confidence component~~, wherein said data sample confidence ~~component includes~~ values comprises a linear combination of an order statistic.

16. (Currently Amended) The method of claim 15, wherein said linear combination ~~is defined by~~ comprises a log-likelihood of respective predetermined classes for said plurality of data classifiers corresponding to said data sample.

17. (Currently Amended) The method of claim 15, wherein said ~~linear combination for a particular data sample comprises a difference between a most likely and a second most likely class associated with a particular classifier~~ plurality of data classifiers comprise audio data classifiers and video data classifiers.

18. (Currently Amended) The method of claim 16, wherein the ~~weight value comprises said data sample confidence component equaling~~ values comprises said log-likelihood of respective predetermined classes for said plurality of data classifiers corresponding to said data sample, and ~~a cumulative component comprising~~ said overall confidence value comprises a mean of said data sample confidence ~~component~~ values over a plurality of said data samples.

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19. (Currently Amended) The method of claim 18, wherein said ~~cumulative component~~ overall confidence value is successively updated with said data sample confidence ~~component~~ values of each said data sample.

20. (Currently Amended) A program storage device readable by computer, tangibly embodying a program of instructions executable by said computer to perform a method for determining a manner of classifying data samples in one of a number of predetermined classes comprising first and second classes, said method comprising:

associating a plurality of data classifiers in a decision fusion application comprising said data ~~sample~~ samples, wherein said data classifiers indicate a manner of classifying said data sample in said one of a number of first classes;

computing sample confidence values for each data sample;

determining an overall confidence value for said first classes using said sample confidence values;

assigning a weight value for each of said plurality of data classifiers as a function of said overall confidence value and said sample confidence values;

classifying each said data sample in a second class by calculating a combined log-likelihood value for each second class, wherein said log-likelihood comprises a summation of likelihoods of said plurality of data classifiers weighted by said weight value; and

classifying a calculated second class as a correct class for a particular data sample by selecting a particular second class with a highest calculated combined log-likelihood value[[]].

and

~~improving a classification accuracy of said decision fusion application based on said correct class.~~

21. (Currently Amended) The program storage device of claim 20, ~~wherein said weight value for said each of said plurality of data classifiers comprises a data sample confidence component,~~ wherein said data sample confidence ~~component includes~~ values comprises a linear combination of an order statistic.

22. (Currently Amended) The program storage device of claim 21, wherein said linear combination ~~is defined by~~ comprises a log-likelihood of respective predetermined classes for said plurality of data classifiers corresponding to said data sample.

23. (Currently Amended) The program storage device of claim 21, wherein said ~~linear combination for a particular data sample comprises a difference between a most likely and a second most likely class associated with a particular classifier~~ plurality of data classifiers comprise audio data classifiers and video data classifiers.

24. (Currently Amended) The program storage device of claim 22, wherein ~~the weight value comprises said data sample confidence component equaling~~ values comprises said log-likelihood of respective predetermined classes for said plurality of data classifiers corresponding to said data sample, and ~~a cumulative component comprising~~ said overall confidence value comprises a

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mean of said data sample confidence ~~component~~ values over a plurality of said data samples.

25. (Currently Amended): The program storage device of claim 24, wherein said ~~emulative component~~ overall confidence value is successively updated with said data sample confidence ~~component~~ values of each said data sample.

26. (Currently Amended): An apparatus for determining a manner of classifying data samples in one of a number of predetermined classes comprising first and second classes, said apparatus comprising:

means for associating a plurality of data classifiers in a decision fusion application comprising said ~~sample~~ samples, wherein said data classifiers indicate a manner of classifying said data sample in said one of a number of first classes;

means for computing sample confidence values for each data sample;

means for determining an overall confidence value for said first classes using said sample confidence values;

means for assigning a weight value for each of said plurality of data classifiers as a function of said overall confidence value and said sample confidence values;

means for classifying each said data sample in a second class by calculating a combined log-likelihood value for each second class, wherein said log-likelihood comprises a summation of likelihoods of said plurality of data classifiers weighted by said weight value; and

means for classifying a calculated second class as a correct class for a particular data sample by selecting a particular second class with a highest calculated combined log-likelihood

value[[]]; and

~~means for improving a classification accuracy of said decision fusion application based on said correct class.~~

27. (Previously Presented) The method of claim 14, ~~wherein said plurality of data classifiers comprise audio and video classifiers, and~~ wherein said decision fusion application comprises an audiovisual speech recognition application.

28. (Canceled).

29. (Currently Amended) The method of claim 28 ~~14~~, further comprising determining a relative confidence level relating to an accuracy of said plurality of data classifiers for each data sample in said decision fusion application based on ~~a data sample confidence component and said overall confidence component~~ said sample confidence values and said overall confidence value.

30. (Previously Presented) The program storage device of claim 20, ~~wherein said plurality of data classifiers comprise audio and video classifiers, and~~ wherein said decision fusion application comprises an audiovisual speech recognition application.

31. (Canceled).

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32. (Currently Amended) The ~~method~~ program storage device of claim ~~31~~ 20, wherein said method further ~~comprising~~ comprises determining a relative confidence level relating to an accuracy of said plurality of data classifiers for each data sample in said decision fusion application based on ~~a data sample confidence component and said overall confidence component~~ said sample confidence values and said overall confidence value.